

# C Minor Final Documentation

## Table of Contents

Table of Contents	1
Brief Description	2
Process	2
Requirements and Specifications	2
Architecture and Design	4
Reflections and Lessons Learned	6

## Brief Description Hudson Chou

C Minor was originally a project designed to connect minorities, specifically in the computer science field, on a common platform to organize events and connect individuals to willing mentors through a mentorship program. While the end result of our project failed to deliver the intended product, it was a good learning experience and we were still able to produce a somewhat functioning website with some of the original intended use cases.

## Process Hudson Chou / Tiara Tan

The C-Minor project utilized an XP iterative development process to organize and operate. While the XP development process itself was very fitting for our type of project, we encountered many individual issues that delayed the development and progress.

Throughout the duration of the iterative development, there existed many issues, but none more significant than a failure to meet deadlines. Because our iterative process often relied on the completion of previous tasks to progress, any delays that occurred during one week at the very least delayed the entire project by another week. Another major issue that surfaced was the group's ability to physically collaborate during any set time. While the initial document listed a set meeting time on Mondays and Tuesdays from 6:30 onwards, group members would frequently miss these mandatory meetings which further exacerbated the delay in development. After the Github repository was completed, group members were expected to submit work individually on their own time even if they weren't able to make the weekly meetings. However, this was not the case as some group members felt other classes' work were more important. There was also a mindset of "failing is okay" despite the product having the same requirements at the end of the day. These factors combined created a snowball effect ultimately resulting in an incomplete product.

For testing, the C-Minor website was difficult to test with individual test cases as code was often refactored and changed in large ways, therefore all of the testing was completed through manual inputs. While this form of testing lacks the efficiency and scope of integration testing, it was sufficient and more convenient for our project.

As a result of Tiara's refactoring efforts, the final code underwent many structural improvements to not only make the code more readable, but also more easily modified for future development.

During our mini group meetings, Tiara and I (Hudson), utilized part of pair programming to not only decrease the amount of bugs within the code, but also increase the overall efficiency of developing the project. While we did not code on a single computer, we would often work on one problem in conjunction before tackling the next problem. This also helped counter the general group atmosphere of setting goals and then failing to meet them, as we would work together to slowly reach a solution. While this process was certainly slower than the "move fast and break things" methodology we originally started with, it guaranteed progress, which our group desperately needed.

## Requirements and Specifications Tiara Tan

### Use Case 1: Registering Users

**Primary Actor:** User

**Goal in Context:** Assign a role to users based on their chosen category

**Scope:** Takes Name, Email, and chosen category to return a valid user saved to the system

**Level:** Higher Level (Summary)

**Stakeholders and Interests:** Prospective Users

**Precondition:** Have an NYU email

**Minimal Guarantees:** Creating an account for an NYU student

**Success Guarantees:** Giving access to Forums, Mentorship, and Nearby Events through the user's personal account

**Main Success Scenario:** Able to navigate to the Forums, Mentorship, and Nearby Events page with your individual account

**Trigger:** Clicking the register button

**Extensions:** Accounts that are not associated with the NYU Email

## **Use Case 2:** Setup Profile

**Primary Actor:** User

**Goal in Context:** Allow users to put up an individual biography about their interests and a picture

**Scope:** Available to all users who have registered an account

**Level:** User Goal

**Stakeholders and Interests:** Users

**Precondition:** User has completed registration and is currently logged in

**Minimal Guarantees:** Edit personal information

**Success Guarantees:** User profile has associated tags that allow for collation and establishing relationships

**Trigger:** Clicking "Edit Profile" button on profile page

**Extensions:** N/A

## **Use Case 3:** Public Forums

**Primary Actor:** User

**Goal in Context:** Allow users to write and reply to forum threads

**Scope:** Available to all users who have registered a forum-specific account

**Level:** User Goal

**Stakeholders and Interests:** Users

**Precondition:** User has completed forum registration and is currently logged in

**Minimal Guarantees:** Post and reply to threads

**Trigger:** Entering the forum page

**Extensions:** Actually integrating the forums with our website in a more sensible, cohesive way and linking the forum account with the regular website account

## **Use Case 4:** Mentor Catalogue

**Primary Actor:** User

**Goal in Context:** Connect a Mentor to a Mentee who shares similar interests

**Scope:** List of all mentors available to all users

**Level:** User Goal

**Stakeholders and Interests:** Users

**Precondition:** None

**Minimal guarantees:** List of mentors

**Success Guarantees:** List of mentors with similar interests to the user

**Trigger:** Entering the mentor catalogue page

**Extensions:** Search through different groups of mentors categorized by interest tags

## **Use Case 5:** Events

**Primary Actor:** User

**Goal in context:** View all upcoming CS events and organizations at NYU Shanghai

**Scope:** Available to all users

**Level:** User Goal

**Stakeholders and interests:** Users

**Precondition:** None

**Minimal guarantees:** List of all upcoming CS events and organizations

**Trigger:** Entering the events page

**Extensions:** Spotlight organizations/events, search function, nearby events/organizations, specific event tags

### Use Case 6: Add Event

**Primary Actor:** User (Organization Member)

**Goal in context:** Add an event to the events page

**Scope:** Available to users with registered accounts

**Level:** User Goal

**Stakeholders and interests:** Users

**Precondition:** User has completed registration and is logged in

**Minimal guarantees:** Add an event and have the event be shown on the all events catalogue

**Trigger:** Entering the events page and clicking “Add Event”

**Extensions:** Adding specific event tags

### Use Case 7: Add Organization

**Primary Actor:** User (Organization Member)

**Goal in context:** Add an organization to the events page

**Scope:** Available to users with registered accounts

**Level:** User Goal

**Stakeholders and interests:** Users

**Precondition:** User has completed registration and is logged in

**Minimal guarantees:** Add an organization and have the organization be shown on the all organizations catalogue

**Trigger:** Entering the events page and clicking “Add Organization”

**Extensions:** Applying for Organization spotlight

## Architecture and Design Hudson Chou

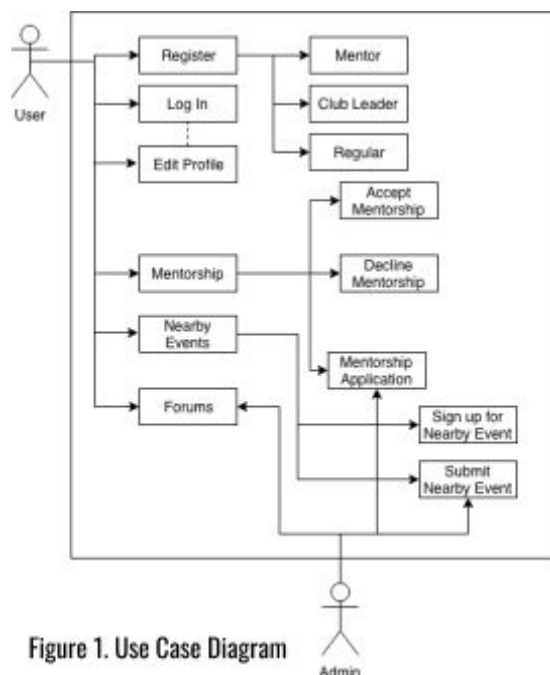


Figure 1. Use Case Diagram

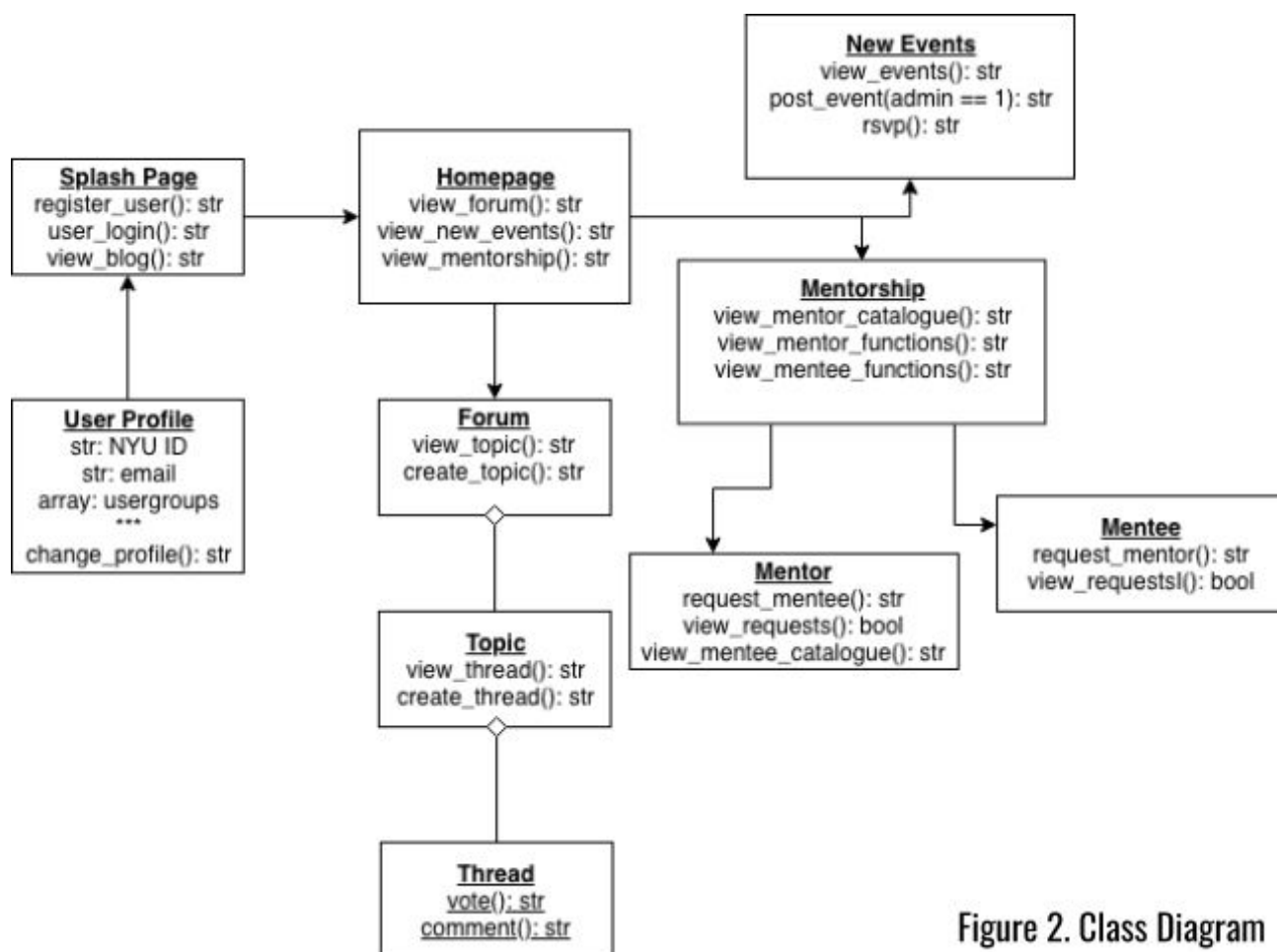


Figure 2. Class Diagram

Figure 2 showcases the class diagram for our website. While there are functions within the class diagram that are not yet implemented in our final product, key features like user profile and homepage are working based on the functions described above.

In this diagram of our website, users are required to login to access the rest of the features of the website. Once logged in, the Homepage acts as the hub to navigate the many different functionalities of the website. The most integral component of the website is the individual user. Every aspect of our website should preferably be linked to the user in some way to personalize the experience. In the current iteration,

user profiles are not yet linked to the forums but any future development should take into account the user's unique id. The overall project is designed with the user at the center and every facet of the website stemming from the user.

## Reflections and Lessons Learned

Include personal reflections on the project and process by each team member. Describe what you learned.

### Hudson

The software engineering project overall was an enjoyable experience. Having never worked with web development as a whole before, the project was a learning experience from start to finish. Learning PHP and trying to integrate it into our website was quite a challenge but the experience was worthwhile. As a group project, the project went terribly. Despite Tiara's and my best efforts in organizing and directing the group, the other two members of our group often missed deadlines and didn't show up to meetings. Without the assistance from our team members, planning iterations was quite difficult as we did not know whether certain parts of the website would be completed in a timely fashion. Other than the internal group struggles, working on the project with Tiara was both insightful and productive. The process of creating a website from scratch was much more challenging than I had previously expected, but a variant of pair programming and many late nights allowed us to complete the basics of the website. While the website as a whole was lacking a significant portion of what we originally promised, I am still content with the product we were able to produce considering the many problems that arose throughout the products development cycle. I believe the lesson learned was to pick better teammates. I do not believe there was anything Tiara and I could do outside of what we already attempted to get our group mates to complete the work. This two person project with Tiara was fun despite all the setbacks provided to us by the other two members of the group.

### Tiara

From an individually working perspective, I enjoyed this project quite a bit. It was nice to learn more about web development and further my CSS and HTML skills. It was also fun working with PHP and learning how to implement databases and run servers locally. It's definitely something I hope to experiment with more in the future. I did enjoy pair programming with Hudson, which is probably my only positive teamwork experience from this entire project. I've realized it's quite fun, despite the stress and lack of other team members, to stay up late eating fish tofu while stressing about bugs with a friend. Otherwise, from a team project perspective, I definitely did not have a great time trying to manage everyone and having to constantly remind team members to contribute. It was truly an ordeal getting everyone in the same room at the same time. We would all agree to meet at a certain time at least one day before the meeting. Then, people would often show up an hour late, several hours late, or not at all. Even when they did show up, instead of working they often played games, broke other people's electric skateboards, or did other work. Even if we finally got them to work on the project, they sat around asking others how to do their part, as if we didn't all start from the same base knowledge of absolutely nothing. Even when asked to implement the simplest of things, some team members would refuse, saying they didn't know how or that it was a waste of time. This member would then proceed to tell Hudson and I that our code was bad, that our implementation was bad, and that we should focus our priorities differently. Upon reminding that member that they also had access to the repository and editing rights, that member proceeded to say that they wouldn't know how to change it anyway. Ultimately, I had a good experience learning new skills to work on this project and working together with Hudson. I learned that picking team members is important and that team management is of utmost importance when working on a group project.

